

REMARKS

[0003] Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 1, 2, 4, 9-15, 17-20, 24-28, 31, 33, 35-38 are presently pending. Claims 2 and 27 are amended herein. No claims are withdrawn or canceled herein and no new claims are added herein.

Formal Request for an Interview

[0004] If the Examiner's reply to this communication is anything other than allowance of all pending claims, or if the only issues that remain are minor or formal matters, then I formally request an interview with the Examiner. I encourage the Examiner to call me—the undersigned representative for the Applicant—so that we can talk about this matter so as to resolve any outstanding issues quickly and efficiently over the phone.

[0005] Please contact me to schedule a date and time for a telephone interview that is most convenient for both of us. While email works great for me, I welcome your call as well. My contact information may be found on the last page of this response.

Claim Amendments

[0006] Without conceding the propriety of the rejections herein and in the interest of expediting prosecution, Applicant amends claims 2 and 27 herein. Applicant amends claims to clarify claimed features. Such amendments are made to expedite prosecution and more quickly identify allowable subject matter. Such amendments are merely intended to clarify the claimed features, and should not

be construed as further limiting the claimed invention in response to the cited reference.

[0007] Claims 2 and 27 are amended to include clarifying subject matter from the independent claims from which they respectively depend.

Substantive Matters

Claim Rejections under § 112 Second Paragraph

[0008] The Examiner rejects claims 2 and 27 under § 112, Second Paragraph, as being indefinite. In particular, the Examiner indicates that it “is unclear how the routing policy would be generated as recited in claim 2 since claim 2 recites the generation of a routing policy where there are no routing policy instructions.” Claim 27 is similarly rejected. Applicant respectfully traverses this rejection.

[0009] Claim 2 recites “determining from the message if the sending node does not have routing policy instructions **derived from the body of the message** after the message is passed to the application level of the routing node” (emphasis added). By implication, if the sending node does not have policy instructions “derived from the body of the message,” the sending node may have policy instructions derived from some other source (e.g. the header of the message). Claim 27 recites similar language: “determining from the message if the sending node does not have routing **policy instructions derived from the body of the message**” (emphasis added). Further, claims 2 and 27 have

been amended to clarify that the “determining” occurs “after generating the routing policy.” Thus, the Applicant respectfully asserts the language recited in claims 2 and 27 is sufficiently clear and definite as required by 35 U.S.C. § 112. Accordingly, Applicant asks the Examiner to withdraw this rejection.

[0010] If amended claims 2 and 27 are not sufficiently clear, the Applicant respectfully asks for assistance in this matter.

Claim Rejections under § 102 and § 103

[0011] The Examiner rejects claims 1, 9-11, 13, 20, 25, 31, 37 under § 102. For the reasons set forth below, the Examiner has not shown that the cited reference anticipates the rejected claims.

[0012] In addition, the Examiner rejects claims 2, 4, 9, 12, 14, 15, 17-19, 24, 26, 28, 33, 35, 36, 38 under § 103. For the reasons set forth below, the Examiner has not made a prima facie case showing that the rejected claims are obvious.

[0013] Accordingly, Applicant respectfully requests that the § 102 and § 103 rejections be withdrawn and the case be passed along to issuance.

[0014] The Examiner’s rejections are based upon **McCanne**: *McCanne, et al.*, US Patent Application Publication No. 2004/0010616 (Published January 15, 2004).

Overview of the Application

[0015] The Application describes a technology for content-based routing of messages in an overlay network. Routing nodes receive messages and return routing policies to the sending node based at least in part on content of the body of a message. (Application, Abstract)

Cited Reference

[0016] The Examiner cites McCanne as the only reference in the anticipation- and obviousness-based rejections.

[0017] McCanne describes a technology for an overlay protocol and system for allowing multicast routing in the Internet to be performed at the application level. Overlay groups are mapped to native multicast groups to exploit native multicasting in regional or local forwarding domains. Use of the overlay protocol allows overlay distribution to be handled in a more intelligent and bandwidth-managed fashion. The overlay computers are configured according to bandwidth and security policies, and perform application-level multicast distribution across the otherwise disjoint multicast networks by using the overlay routing. The result is an overlay multicast network that is effectively managed according to local network management policies. Application-level control can be applied to the transferred data at the overlay routers. (McCanne, Abstract)

Anticipation Rejections

[0018] Applicant submits that the anticipation rejections are not valid because, for each rejected claim, no single reference discloses each and every element of that rejected claim.¹ Furthermore, the elements disclosed in the single reference are not arranged in the manner recited by each rejected claim.²

Based upon McCanne

[0019] The Examiner rejects claims 1, 9-11, 13, 20, 25, 31, 37 under 35 U.S.C. § 102(e) as being anticipated by McCanne. Applicant respectfully traverses the rejection of these claims. Based on the reasons given below, Applicant asks the Examiner to withdraw the rejection of these claims.

Independent Claim 1

[0020] Applicant submits that McCanne does not anticipate this claim because it does not disclose at least the following features as recited in this claim (in part, with emphasis added):

"generating a routing policy for a sending node **based at least in part on the body of the message**, wherein the routing policy comprises **instructions for redirecting messages based at least in part on the body of the message.**"

¹ "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); also see MPEP §2131.

² See *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

[0021] The Examiner (Office Action, p. 3) asserts that these portions of McCanne disclose these claim features. The Applicant respectfully disagrees that McCanne discloses these claim features.

[0022] The Examiner cites to McCanne, paragraphs [0044] through [0046] and FIG. 6 in support of his assertion. Paragraphs [0044] through [0046] are shown here for convenience (in pertinent part):

"The network model assumed by an overlay network is a collection of isolated (but possibly overlapping) regions of native multicast connectivity. Overlay routers are deployed across this arrangement of multicast clouds and peer with each other either via unicast or multicast UDP/IP to form a network of application-aware multicast forwarding agents. End hosts inject traffic into the overlay network using either native multicast across a "leaf scope" or using unicast communication directly to a nearby overlay router.

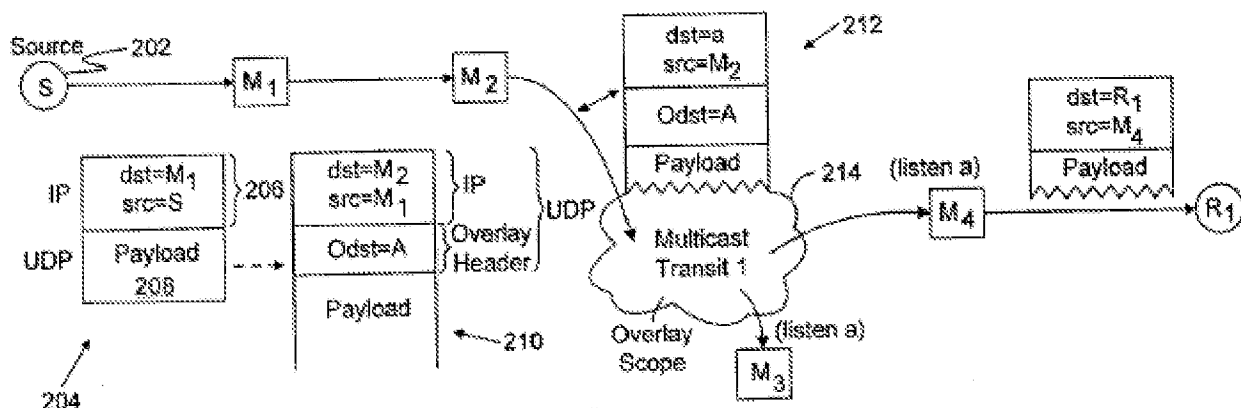
Even though the OMN framework operates at the application layer, overlay routers must compute what amounts to network-level routes to determine how to flood multicast flows across and throughout the appropriate region of the overlay network. Thus, in the OMN architecture routing occurs at two layers, the network layer and the application layer. Because routing is carried out the application layer, application-level knowledge can be integrated into the forwarding process to transform packet flows at points of administrative discontinuity.

In this two-layer routing model, the network (IP) source and destination addresses are rewritten on each overlay router hop, which means that certain structure and state (like address allocations and multicast spanning trees) need not be globally consistent across multicast domains. Note that this allows overlay routing without requiring all routers in the network to be upgraded to recognize and forward a new packet type. No change to the existing routing infrastructure is needed because of the two-layer addressing scheme. That is, existing multicast routers can remain intact while new overlay routers are installed at the borders of administrative boundaries, or domains. We thus exploit existing native multicast routing technology within administrative domains and across transit domains when and where available.

[0023] As can be seen, these paragraphs fail to disclose "body" of a "message" as recited in claim 1 and thus fail to support the Examiner's assertion and rejection of claim 1. The Applicant respectfully disagrees that any portion of McCanne discloses

generating a routing policy "based . . . on the body of . . . [a] message" as recited in claim 1.

[0024] The Examiner also cites to FIG. 6, this figure is shown in relevant part here for convenience to show the limitations of McCanne:



[0025] Paragraphs [0204] through [0206] of McCanne explain FIG. 6 and state the following (with emphasis added):

"In FIG. 6, content source 202 sends information in the form of packets such as packet 204. Packet 204 includes an IP header 206 having a destination field and source field. The destination field indicates that the packet is destined for MediaBridge M1 and that the source for the packet is S. The packet data is contained in a UDP format "**payload**" 208. When MediaBridge computer M1 received the packet, it changes the destination and source indications to M2 and M1, respectively. Additionally, an **overlay header is inserted between the IP header and the payload**. This packet is shown at 210. The overlay channel indication is "A" in the **overlay header**, which is also in UDP format.

"Packet 210 is received by MediaBridge computer M2. M2 is part of a native multicast group and so is able to distribute the packet via native multicast over the native multicast channel "a." Accordingly, M2 changes the destination and source indicators in the native header to "a" and M2, respectively. Packet 212 is then transmitted throughout multicast domain 214 where it is received by M3 and M4. MediaBridges such as M5 which haven't joined native multicast group "a" do not receive packet 212. MediaBridge M4 uses the overlay channel designation "A" to send the

packet to client R1 after **stripping off the overlay header "A"** so that the packet appears to R1 as a standard packet. M3 and M4 both check the source address and overlay group of packet 212 to ensure that it came from an appropriate peer (in this case M2). If not, the packet would have been dropped.

"Additional routing of the packet is performed by M3 by the use of a second native multicasting domain 222 using native multicast address "b." M3 uses native multicast group "b" by specifying the destination of packet 220 (having the **same payload** as packet 212) as "b." Thus, multiple different native multicast groups can be used to distribute the same overlay channel. Packet 220 is distributed through domain 222 via native multicast channel "b" to be received by M6 and other possible MediaBridges, routers, servers, computers, etc. (not shown) that are subscribed to native multicast channel "b." M6, similar to M4's operation, uses the overlay channel designation "A" to determine that the packet should be sent to R2 and R3. M6 first strips off the overlay channel information before sending the packet to R2 and R3."

[0026] As can be seen, McCanne discloses a "payload." The Examiner seems to be equating "payload" as found in McCanne with a message "body" as recited in claim 1. However, McCanne only discloses the presence of a payload and inserting and using an "overlay header" between the IP header and the "payload."

[0027] In contrast, claim 1 recites "generating a routing policy" which comprises "instructions for redirecting messages based at least in part on the body of the message." FIG. 6 of McCanne fails to disclose anything of the sort. McCanne merely discloses delivery of the "packet" and "payload." McCanne fails to disclose use by the overlay network of the payload.

[0028] Consequently, McCanne does not disclose all of the features of this claim because it fails to disclose "instructions for redirecting messages based at

least in part on" a "body" of a message as recited. Accordingly, Applicant respectfully asks the Examiner to withdraw the rejection of this claim.

Independent Claims 20, 25 and 31

[0029] These independent claims recite a "routing policy" or "instructions" based at least in part "on content of the body of the message." Without repeating the previous discussion in regard to claim 1, as was shown, McCanne fails to disclose at least this claim feature. Further, claim 25 recites incorporating such "routing policy into the body of the message." Based upon at least this difference or differences, these claims are likewise allowable over McCanne.

Dependent Claims 9-11, 13 and 37

[0030] Claims 9-11 and 13 ultimately depend upon independent claim 1 and claim 37 depends upon claim 31. As discussed above, claims 1 and 31 are allowable over McCanne. It is axiomatic that any dependent claim which depends from an allowable base claim is also allowable. Additionally, some or all of these claims may also be allowable for additional independent reasons.

Obviousness Rejections

Lack of *Prima Facie* Case of Obviousness (MPEP § 2142)

[0031] Applicant disagrees with the Examiner's obviousness rejections. Arguments presented herein point to various aspects of the record to demonstrate that all of the criteria set forth for making a prima facie case have not been met.

Based upon McCanne

[0032] The Examiner rejects claims 2, 4, 9, 12, 14, 15, 17-19, 24, 26, 28, 33, 35, 36, 38 under 35 U.S.C. § 103(a) as being unpatentable over McCanne. Applicant respectfully traverses the rejection of these claims and asks the Examiner to withdraw the rejection of these claims.

Independent Claims

[0033] The Applicant submits that McCanne does not teach or suggest at least the following features as recited in claims 1, 15, 20, 25 and 31 (in substantive part and with emphasis added):

generating a routing policy for a sending node **based** at least **in part on the body of the message**, wherein the routing policy comprises **instructions** for redirecting messages **based** at least **in part on the body of the message**.

[0034] Additionally, the Applicant submits that McCanne does not teach or suggest "incorporating the routing policy into the body of the message" as additionally recited in claim 15.

[0035] The Examiner relies on the same passages in these rejections based on obviousness as for the rejections based on anticipation. Without needlessly repeating the discussion above as to the rejections based on anticipation, the Applicant asserts that McCanne fails to teach or suggest the indicated claim features. In particular, the Examiner relies on paragraphs [0044] through [0046] and FIG. 6. As was shown, these portions of McCanne fail to teach or suggest "generating a routing policy" based in part "on the body of the message" as recited in the independent claims.

[0036] Accordingly, Applicant respectfully asks the Examiner to withdraw the rejection of independent claims 1, 15, 20, 25 and 31, and all claims dependent therefrom, where the rejection is based on McCanne. In particular, the Applicant respectfully asks the Examiner to withdraw the rejection of claims 2, 4, 9, 12, 14, 17-19, 24, 26, 28, 33, 35, 36 and 38 because they depend from one of the allowable independent claims 1, 15, 20 25 and 31.

Dependent Claims

[0037] If not addressed individually above, in addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is

allowable. Applicant requests that the Examiner withdraw the rejection of each dependent claim where its base claim is allowable.

Conclusion

[0038] All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the **Examiner is urged to contact me before issuing a subsequent Action.** Please call or email me at your convenience.

Respectfully Submitted,

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Representatives for Applicant

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